I-35 & Pleasant Valley Road/South Liberty Parkway Interchange Improvements

FY2013 TIGER DISCRETIONARY GRANT APPLICATION
JUNE 2013

Contact Information:
Opportunity Title: FY 2013 National Infrastructure Investments
Offering Agency: U.S. Department of Transportation
CFDA Number: 20.933
Opportunity Number: DTOS59-13-RA-TIGER5
Competition ID: TIGER5-FY13
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# I-35 & Pleasant Valley Road/South Liberty Parkway Interchange Improvements

FY 2013 TIGER Grant Application

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I. Introduction
In partnership with the cities of Liberty and Pleasant Valley, the Missouri Department of Transportation (MoDOT) is requesting a $10 million TIGER Discretionary Grant to improve the existing interchange at I-35 & Pleasant Valley Road/South Liberty Parkway/US 69. The improvements will realign the existing I-35 left entrance/exit ramps to the right side, increase the length of acceleration and deceleration lanes, replace three bridges, improve the intersecting route connections (Pleasant Valley Road, South Liberty Parkway, US 69 and I-35 ramps) and provide bicycle and pedestrian facilities.

The Project supports long-term economic activity of national significance. Ford Motor Company is expanding its Kansas City Assembly plant located along US 69 in the Village of Claycomo, adding a third shift for the F-150 truck production and, for the first time in the United States, building the Transit Connect van - bringing jobs not only to the Kansas City region but to the nation.

The outdated, unusual interchange configuration, including the left handed interstate entrance and exit ramps, presents safety and congestion challenges to this growing area. Long-term benefits from this Project include reduced travel time and vehicle operating costs for business and personal travelers and improved safety. Livability for the communities will improve with the addition of bicycle and pedestrian facilities through the interchange area.

Strong partnership and support for the Project is evident through the letters received and included in this TIGER Discretionary Grant application. The Project is advancing and ready to proceed rapidly when funding is made available.

II. Project Description
The I-35 & Pleasant Valley Road/South Liberty Parkway/US 69 interchange is located in the heart of Clay County, the seventh most populous county in Missouri and one of the fastest growing counties in the state, over 20 percent in the last decade. The City of Pleasant Valley is just west of the interchange area; the City of Liberty is immediately to the east and the Village of Claycomo is to the south. The project area map shows the location of the interchange in relation to the surrounding communities, existing businesses and proposed developments.
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Challenges & Opportunities
US 69, also known as Vivion Road through Kansas City and Claycomo, loosely parallels I-35 running north-south through the Kansas City area. US 69 was the primary north-south corridor through the Kansas City area prior to the construction of I-35. Only half, the southern portion, of the interchange was built as part of the original construction of I-35 in 1959. Initially, US 69 coming from the north split at Pleasant Valley Road and became the start of I-35 in the Kansas City region. The northern half of the interchange was built in 1970 when I-35 was extended to the north over the US 69 alignment, completing the interchange.

Pleasant Valley Road, South Liberty Parkway and US 69 converge at the I-35 interchange. This is a heavily traveled interchange, with more than 82,000 vehicles per day and over 12 percent truck traffic. The outdated, existing configuration has the northbound and southbound lanes of I-35 separating into a wide median throughout the interchange area. The southbound entrance and exit ramps and the northbound entrance ramp are all located within the median of I-35. The left handed entrance ramps are of special concern because trucks are forced to merge into the fast lane of I-35 while they are traveling at 40-45 mph. This speed differential plus short acceleration and deceleration lanes and high traffic volumes contribute to the unsafe conditions and high crash rates.
The location of the entrance and exit ramp terminals creates an unusual configuration of the at-grade intersections of Pleasant Valley Road/South Liberty Parkway and US 69. It does not meet the typical driver expectation for a standard interchange and therefore adds to the unsafe conditions and high crash rates. Also, Church Road is a full access intersection that is too close to the interchange, causing additional congestion and safety concerns.

Over the past decade, improvements have been made to these intersections that have provided short-term benefits. However, due to a lack of funding, the improvements did not address realigning the ramps, which would provide long-term benefits.

Improvements completed to date include consolidating two north bound exit ramps, one to US 69 and the other to Pleasant Valley road/South Liberty Parkway, into a single exit, applying access management principles (added medians) at the closely spaced Stewart Road and South Liberty Parkway, and adding lanes to South Liberty Parkway. This previous work did improve capacity and traffic flow through the interchange area.

Despite the work done, the current interchange configuration contributes to higher crash rates than typical interchange types with similar traffic volumes. Two
predominate crash patterns are evident. First, a high number of rear end crashes occur on I-35. This is due to congestion, particularly at the I-35 southbound entrance ramp. Also, numerous right angle crashes occur at the main intersection of Pleasant Valley Road, South Liberty Parkway and US 69. These generally involve left turns from the I-35 southbound exit ramp with the traffic going to the northbound entrance ramp.

The challenges discussed for the interchange configuration become compounded when the current and planned development and growth in the area are taken into account. Of national significance is the previously announced expansion plans by the Ford Motor Company for the Kansas City Assembly plant located along US 69 in Claycomo. The expansion announced last year included:

- adding 1,600 new jobs at the plant, bringing the total workforce to 5,400;
- adding a second shift for production of the F-150, the world’s most popular pick-up truck;
- building an integrated stamping facility to support production at the plant;
- and building Ford’s full-size Transit van.

In May 2013, Ford announced that in addition to their previous plans, they are going to add a third shift for the F-150 production line. In total, there will be approximately 900 employees hired for the production of the F-150 truck and approximately 1,100 employees hired for the production of the new Transit van.

Other economic development opportunities are expected, including suppliers and vendors for the expanded and upgraded assembly plant. With developable land near the Ford plant, it is an ideal location for suppliers and vendors who want to be close, allowing for just-in-time delivery of their products and services. One example is Adrian Steel which recently announced its plan to locate in the area with a 32,000 square-foot facility and creating 39 new jobs by September 2013 to supply parts for the new Transit van. LMV Automotive is also locating in Liberty with a 212,000 square-foot facility and
hiring 186 new employees to create chassis for the Transit van. CEVA, a logistics company located in Liberty, expects to expand another 75,000 square-feet to their existing facility to accommodate Ford’s expansion plans. These companies require just-in-time delivery of their products and services and will utilize the I-35 & Pleasant Valley Rd/South Liberty Parkway interchange.

Additional investments are under way or planned by the surrounding municipalities. Pleasant Valley Road is an east-west connector through the cities of Gladstone, Kansas City, MO and Pleasant Valley. The City of Pleasant Valley is landlocked by the cities of Kansas City to the north and east, Claycomo to the south, Gladstone further west, and Liberty to the east. Although most of the new development will be in the surrounding cities, Pleasant Valley is supportive and works in cooperation with the other cities to plan for improvements to Pleasant Valley Road, such as widening to three lanes.

South Liberty Parkway is a new, partially constructed east-west connector between I-35 and MO 291. The City of Liberty completed a study in 2006 for the South Liberty Parkway that identified an alignment for the much needed east-west corridor through the southern part of the City. The new route will have a significant impact not only on the region’s transportation system, alleviating some of the traffic on the severely congested I-35 and Route 152 interchange, but on future growth in the area.

Liberty and Kansas City, in partnership with MoDOT, are funding, designing and constructing the Flintlock Road extension project that will tie into the South Liberty Parkway. The $11.4 million construction project was awarded in July 2012 letting with an anticipated completion in November 2013. Flintlock Road intersects Route 152 on the west side of I-35 in Kansas City crosses over I-35 north of the Project location and connects into South Liberty Parkway just east of the interchange. This project addresses several local needs, with a focus on improving safety and reducing congestion at key locations in the area, specifically on Route 152. The Liberty Public School district currently makes at least 128 trips over I-35 daily, transporting more than 5,000 children across the interstate. This project will help the district move students more efficiently and help lessen the amount of traffic on Route 152.

Liberty also completed an I-35 Corridor Highway Access Study in 1997 that identified short-term improvements at the four interchanges that provide access into the City, including the Pleasant Valley Road/South Liberty Parkway interchange. Improvements have been implemented at three of the four locations and another interchange project is currently in progress. The City’s leadership and financial contributions to the projects were instrumental in their completion.
Another development in the area includes the new 32,000 sq. ft. Kansas City Missouri Temple of the Church of Jesus Christ of Latter-Day Saints, which opened May 6, 2012. The Temple is located approximately 1.3 miles west of the interchange area and is expected to bring in thousands of visitors each year. This 56-acre Community Unit project also includes an adjoining meeting house and 140 single family residential units.

**Proposed Improvements**

The interchange modifications proposed in the Project have been identified to address the safety and congestion concerns and to meet current and future growth in the area. The modifications include realignment of the left side ramps to right side ramps, longer acceleration and deceleration lanes, replacement of three bridges, intersection improvements for the intersecting route connections (Pleasant Valley Road, South Liberty Parkway, US 69 and I-35 ramps) and adding bicycle and pedestrian facilities.

The proposed reconfiguration of this interchange will improve traffic flow, safety and the condition of the system. Future projections show traffic increasing from 82,000 to over 116,000 vehicles per day based on the current and proposed development in the area. Once improved, current and future traffic will be able to move more freely with fewer delays and less travel time. Fewer crashes are expected, even with the additional traffic, once a more traditional type of interchange is in place, such as entrance and exit ramps that merge & diverge from the right. Drivers will feel more comfortable and will be able to merge into the higher speed I-35 traffic more safely. Pavement improvements and
bridge replacements improve the condition of the system and reduce the maintenance costs of the system.

Bicycle and pedestrian accommodations are a necessary and important part of the Project. As previously discussed, the unusual interchange configuration makes it unsafe for vehicles travelling through the area, which only amplifies the safety concerns for pedestrians and bicyclists. Currently, the only designated facility for pedestrians and bicyclists is a pedestrian bridge located approximately ½ mile south of the interchange over I-435. However, at each end of this facility are grassy areas without any connections to paths or trails making it difficult and out of the way for people to access. Adding sidewalks, a shared use path and Share the Road signs to Pleasant Valley Road, South Liberty Parkway and US 69 will improve safety and access for those trying to cross the interstate to get to the surrounding neighbors, businesses and to other trails in the area.

As the Project moves through design and construction, MoDOT will look for nontraditional project design methods to develop efficient solutions to meet the Project’s needs. Practical design will continue to be applied to the Project, enabling MoDOT to stretch the construction dollars and maximize the value of the project by ensuring that is it the correct solution for its surroundings. MoDOT strives to build good projects that result in a great system.

**Future Improvements**
Future improvements to I-35 include connecting the acceleration and deceleration lanes between the I-435 interchange and the Pleasant Valley Road/South Liberty Parkway interchange, as well as reconfiguring some of the substandard ramps within the I-435 interchange.
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III. Project Parties

Partnerships
Missouri Department of Transportation (MoDOT)
- TIGER Grant main applicant
- Plans, designs, constructs and maintains 33,884 miles of highways and 10,364 bridges and culverts – the nation’s seventh largest state highway system
- Has jurisdiction over the I-35 and US 69 highway corridors, bridges and ramps
- $5.07 million Contribution

City of Liberty
- County seat of Clay County, population 29,149
- Has jurisdiction over South Liberty Parkway east of the interchange area
- $4.20 million Contribution

City of Pleasant Valley
- Population 2,961
- Has jurisdiction over Pleasant Valley Road west of the interchange area
- $100,000 Contribution

Stakeholders
Clay County
Village of Claycomo
CBL & Associates Properties, Inc.
Ferguson Properties, Inc
Mr. Kincade
QuikTrip Corporation
Clay County Economic Development Council
Greater Kansas City Chamber of Commerce
Kansas City Economic Development Council
Liberty Area Chamber of Commerce
Liberty Economic Development Corporation
Northland Regional Chamber of Commerce
Northland Neighborhoods, Inc.
Mid-America Regional Council
Missouri Department of Economic Development
Liberty Public School District
North Kansas City School District
Ford Motor Company
UAW Local 249
R+L Carriers
The Church of Jesus Christ of Latter-Day Saints
U.S. Senator Roy Blunt
U.S. Senator Claire McCaskill
U.S. Congressman Sam Graves
Senator Ryan Silvey
Representative T.J. Berry
Representative Myron Neth
Representative Jay P. Swearingen
Letters of financial commitment and other supporting documentation showing confirmed partnerships and support from local, state and federal entities are available.

IV. Grant Funds and Sources

MoDOT is requesting $10,000,000 of TIGER Discretionary Grant funds, approximately 52 percent of the total project cost estimated at $19.373 million. This award is the amount needed to fund the completion of design and construction of the transportation improvements. Through a combination of local, state, and federal sources, $9.373 million or 48 percent has already been identified and committed to the Project.

Information about the amount of project funding, the total project costs and a detailed breakdown of the construction costs are shown.

<table>
<thead>
<tr>
<th>Project Costs</th>
<th>Project Cost</th>
<th>MoDOT</th>
<th>Local</th>
<th>TIGER Grant</th>
</tr>
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<td>Right of Way Acquisition</td>
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</table>
I-35 & Pleasant Valley Road/South Liberty Parkway
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<table>
<thead>
<tr>
<th>Construction Costs</th>
<th>Cost</th>
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<tbody>
<tr>
<td>Grading &amp; Drainage</td>
<td>$1,934,400</td>
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<tr>
<td>Base &amp; Surface</td>
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<tr>
<td>Bridges</td>
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<tr>
<td>Miscellaneous</td>
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<tr>
<td>Construction Contingency (2%)</td>
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<tr>
<td><strong>Total Construction Cost</strong></td>
<td><strong>$16,739,840</strong></td>
</tr>
</tbody>
</table>

Letters of financial commitment and other supporting documentation showing confirmed partnerships and support from local, state and federal entities are available.

V. Selection Criteria

A. Long-Term Outcomes

i. Economic Competitiveness

In October 2011, the Ford Motor Company, the United Auto Workers and Missouri Governor Jay Nixon announced plans for a $1.1 billion investment in the Kansas City Assembly Plant located in the Village of Claycomo, MO. The investment includes:

- adding 1,600 new jobs at the plant, bringing the total workforce to 5,400;
- adding a second shift for production of the F-150, the world’s most popular pick-up truck;
- building an integrated stamping facility to support production at the plant;
- and building Ford’s full-size Transit van.

This is the first time the Transit van will be built in the United States and sold in the American market. Previously, it was built and sold only in Europe. The Ford Transit Connect is a light commercial truck that received “best-in-class fuel economy” with a 15.4 gallon tank and an estimated 21 city / 27 highway / 24 combined mpg.

In May 2013, Ford announced that in addition to their previous plans, adding a third shift for the F-150 production line. In total, there will be approximately 900 employees hired for the production of the F-150 truck and approximately 1,100 employees hired for the production of the new Transit van.
A 400,000 sq. ft. sheet metal stamping plant is also currently under construction east of the interchange area along South Liberty Parkway. When completed, the plant will employ 250 workers. Additional suppliers and vendors are anticipated to locate in the area to allow for just-in-time deliveries in order to meet the demands of production schedules. Examples include Adrian Steel which recently announced its plan to locate in the area with a 32,000 square-foot facility and creating 39 new jobs by September 2013 to supply parts for the new Transit van. LMV Automotive is locating in Liberty with a 212,000 square-foot facility and hiring 186 new employees to create chassis for the Transit van. Also, CEVA, a logistics company located in Liberty, expects to expand another 75,000 square-feet to their existing facility to accommodate Ford’s expansion plans.

Additional development in the area includes the new Kansas City Missouri Temple of the Church of Jesus Christ of Latter-Day Saints. Construction was completed last year and a dedication ceremony was held on May 6, 2012. The Temple is located approximately 1.3 miles west of the I-35 interchange area, immediately west of I-435 and north of Pleasant Valley Road. In Missouri and Kansas there are approximately 45,000 members of the Church and it is anticipated that there will be thousands of visitors annually to the Temple.

The City of Liberty has identified the South Liberty Parkway and the surrounding undeveloped land as a priority in its comprehensive plan, Blueprint for Liberty. When completed, South Liberty Parkway will connect to I-35 on the west and Route 291 on the east, an important east-west connector for the area. The plan calls for a large mixed use area that will take advantage of the regional benefits of connecting I-35 to Route 291 and providing an opportunity to support higher densities, capitalizing on the amount of traffic using the road and providing a community focal point for the southern part of the city.

The existing configuration of the interchange and the current traffic volumes in the area significantly impact the travel times for all types of vehicles. The additional projected traffic only adds to the congestion and safety concerns. The interchange improvements will improve traffic flow and reduce congestion allowing for more efficient motor vehicle operations.

During its first 20 years, the Project will lead to more efficient personal and commercial travel in the area, reducing the average delay per vehicle by 78 percent, a benefit of approximately $7.58 million, at a discounted rate of seven percent, in
travel time savings. The Project will contribute to the nation’s economic competitiveness via time and vehicle operating cost savings.

ii. Safety
The current interchange configuration contributes to higher crash rates than typical interchange types with similar traffic volumes. Left hand entrance and exit ramps on I-35, along with short acceleration lanes, only 0.6 miles between the southbound gore points of this interchange and the I-435 interchange, has vehicles travelling at slower speeds when entering onto the interstate. The speed differential between vehicles leads to increased rear end crashes in this area.

Another area of concern is at the intersection of Pleasant Valley Road, US 69, the I-35 southbound off-ramp and the I-35 northbound on-ramp. Drivers experience visibility issues due to the unusual configuration of the intersection and the location of the signals, resulting in a high rate of right-angle crashes.

By reconfiguring the interchange and intersections, a 27 percent decrease in the total amount of crashes is expected for the entire project area. To determine the economic benefits, a Safety Analysis was conducted and shows that a 70 percent decrease in rear end crashes on I-35 and a 40 percent decrease in right angle injury crashes is expected. The expected annual safety benefit of the Project is $794,592.

iii. State of Good Repair
MoDOT places a high priority on improving the condition of state highways and bridges. In 2004, MoDOT started a major road improvement program called the Smooth Roads Initiative. The program improved 2,200 miles of Missouri’s major routes, bringing them from 47 percent to 74 percent in good condition. Another program in 2007 brought 85 percent of Missouri’s major routes to good condition. Currently, more than 88 percent of major highways are rated in good condition.

MoDOT’s Tracker is a tool to assess how we deliver services and products to our customers and includes performance measures that track our progress on
successfully achieving desired results. Included in MoDOT’s Tangible Results are Keep Roads and Bridges in Good Condition, Deliver Transportation Solutions of Great Value, Operate a Reliable and Convenient Transportation System and Use Resources Wisely.

Needs for pavement and bridge improvements in this area had previously been identified during our normal planning process. Also, the I-35 northbound and southbound bridges over Pleasant Valley Road/South Liberty Parkway have restricted vertical clearance postings of 14’ 5” and 15’ 2”, respectively.

The Project replaces the existing bridges, allowing for improved vertical clearance and decreasing future maintenance costs. Pavement improvements include replacing the existing left side entrance ramps with new entrance ramps that have longer acceleration lanes and merge from the right and reconfiguring all access points within the interchange to limit conflict points. These improvements are necessary for the more efficient and safer interchange configuration. In addition, all of I-35 in the project limits will receive a preventative maintenance pavement treatment, in keeping with MoDOT’s seven-year cycle for interstate treatments.

iv. Livability
Accommodating walking and bicycling gives customers who don’t drive, or choose not to drive, an option for accessing jobs and services in the community. Completion of the Project will have notable impacts on several communities located within or near the interchange area. One high-profile improvement is the addition of sidewalks, a shared use path and Share
the Road signs to Pleasant Valley Road, South Liberty Parkway and US 69. Connections for residents crossing I-35 will be dramatically improved by the reconfiguration of the confusing and unsafe interchange and intersections.

Several area plans have also identified improvements to the interchange area. These plans were developed through extensive planning efforts and public involvement.

- **Northland Trails Vision Plan** – Clay County and Platte County designed a comprehensive trail system. The system includes on-road bicycle facilities and off-road trails for a variety of uses. The Riverside/Liberty Trail via – Vivion Road (US 69) was identified as a high priority project and is a 12.6 mile east-west route through Riverside, Kansas City, Claycomo, Pleasant Valley and Liberty.
- **Clay County 2008 Comprehensive Plan** – One of the goals identified in the plan is to minimize traffic congestion throughout the County through transportation system capacity enhancements. Coordinating future improvements with MoDOT and the County’s municipalities, encouraging MoDOT to study and implement capacity improvements on I-35 and providing accommodations for bicycles on secondary roadways are included in the implementation plan.
- **Blueprint for Liberty** – The Blueprint for Liberty was a community effort to gain citizen input in charting Liberty’s course for the future. Key recommendations identified in the plan include establishing a variety of land uses throughout the South Liberty Roadway corridor, expanding the City’s multi-use trail system and encouraging sustainable landscaping practices.
- **City of Pleasant Valley, MO – Comprehensive Plan** (2006) – Transportation recommendations center on the goal of developing a transportation network system that provides convenient, safe access to the City and surrounding areas to enhance future growth and quality of life. Currently, under an inter-jurisdictional agreement, the cities of Pleasant Valley, Kansas City, and Gladstone are planning to widen Pleasant Valley Road to three-lanes between Antioch Road in Gladstone to US 69 in Pleasant Valley. Also, the plan calls for developing a pedestrian system that connects important city areas and facilities, such as City Hall, the community center and key commercial areas.
- **Village of Claycomo –** The Village of Claycomo is studying US 69 to identify beautification and landscaping improvements, as well as bicycle and pedestrian facilities along this critical corridor.
- **Northland Chamber of Commerce** – The Northland Chamber of Commerce has identified this Project as one of its priorities for the past four years.
v. Sustainability
The interchange improvements will improve traffic flow and reduce congestion allowing for more efficient motor vehicle operations. Improvements such as converting interstate ramps from entering or exiting on the left to entering or exiting on the right, so vehicles will have not to adjust their speed to oncoming trucks. Additionally, the Project will include replacing some aging infrastructure. This means less frequent maintenance, and thereby temporary lane closures, resulting in traffic congestion and increased energy use due to stop and go traffic. Overall, the Project will result in improved energy efficiency by vehicles using less fuel consumption to operate.

Furthermore, the Project will lead to improved air quality by decreasing the greenhouse emissions from vehicles traveling within the interchange area. Decreased congestion from the project will reduce total emissions as shown.

<table>
<thead>
<tr>
<th>Emission Reductions</th>
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</thead>
<tbody>
<tr>
<td>Total Amount Reduced (g)</td>
</tr>
<tr>
<td>Carbon Monoxide (CO)</td>
</tr>
<tr>
<td>Nitrogen Oxides (NOX)</td>
</tr>
<tr>
<td>Volatile Organic Chemicals (VOC)</td>
</tr>
</tbody>
</table>

MoDOT is committed to being environmentally and socially responsible while using resources wisely in the construction and operation of Missouri’s transportation system. MoDOT’s Tracker is a tool to assess how we deliver services and products to our customers and includes performance measures, Operate a Reliable and Convenient Transportation System and Use Resources Wisely, which tracks our progress on successfully achieving desired results.

Recycling is vital for the health of the environment, but it has other benefits as well. When MoDOT reuses otherwise discarded pavement materials in new paving projects, it helps offset rising material costs. For example, 24 percent of a ton of new hot mix asphalt pavement was derived from recycled components in 2012. This saved MoDOT and taxpayers approximately $12 per ton, or $34 million overall versus the same mixture without recycled components on the 2.9 million tons of asphalt used this year. In 2012, 4,002 tons of waste materials were recycled by MoDOT.
### B. Job Creation & Near-Term Economic Activity

Job creation and near-term economic activity are a criterion for TIGER Discretionary Grant funding, especially jobs and activity that benefit economically distressed areas. Guidance from the U.S. Department of Transportation provides a simple rule for estimating job-years created by government spending. The Council of Economic Advisers (CEA) determined that a job-year is created by every $76,923 in transportation infrastructure spending or 13,000 job-years per billion dollars of transportation infrastructure spending. Utilizing the recommendation of the CEA and the construction cost of the Project of $16.740 million, the number of direct, indirect and induced job-hours expected to be 217.62.

#### Near Term Expenditures

<table>
<thead>
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<th>Costs</th>
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<td>2014 - Q4</td>
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<td>2015 - Q3</td>
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<td><strong>Total</strong></td>
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</table>

However, using information from TREDIS, a nationally recognized system that provides the benefit costs inputs, a total of 262 jobs are projected to be created during the project. The new jobs will generate approximately $15.3 million in wages and $34.0 million in overall business output during the project.
An analysis conducted by the Mid-America Regional Council (MARC), the region’s metropolitan planning organization, shows economically distressed areas that are located within five miles of the interchange area. The analysis identified two census tracts plus another partial tract with unemployment rates of 8.9 percent or greater and two census tracts plus additional partial coverage of other tracts with per capita incomes below $21,867. These areas will benefit from the creation of jobs as a part of Ford’s expansion plans and the ancillary development from suppliers and vendors.

Additionally, MoDOT adheres to and enforces best practices and regulations consistent with our nation’s civil rights and equal opportunity laws, to ensure that all individuals—regardless of race, gender, age, disability, and national origin—benefit from TIGER Discretionary Grant funding.

The Project would create job opportunities for low income workers as MoDOT’s project best practices include minority and female goals and would also establish specific goals in the various trades including laborers, cement finishers, Teamsters, operating engineers, carpenters and iron workers. Based upon conceptual design possibilities it has been determined that scopes of work include concrete flat work (sidewalks, curbs) guard rail, iron work, electrical and landscaping.

MoDOT also has a project training program with a primary objective of training and upgrading minorities and women to journey status. MoDOT has implemented an On-the-Job training (OJT) Program, setting a trainee goal on each federally funded project. Furthermore, through the implementation of a Supportive Services Program, MoDOT works with Disadvantaged Business Enterprise (DBE) firms seeking to increase their participation in MoDOT’s highway construction. Supportive Services assists certified DBE owners in developing their capability and capacity and in increasing their business skills in specific and measurable areas (i.e. bidding, estimating, accounting, bonding, safety, marketing, etc.)

C. Innovation
MoDOT currently operates the regional KC Scout Traffic Management Center (TMC) in cooperation with the Kansas Department of Transportation. The Scout TMC operates 24 hours a day, 365 days a year, and maintains both regional and statewide freeway management duties. MoDOT has recently deployed Scout dynamic message sign boards, closed circuit television cameras, and radar vehicle detectors along this section of I-35 in order to improve incident management practices and to more effectively distribute traveler information to motorists. In addition, MoDOT currently has a project
under construction to modernize the highway advisory radio transmitter that is located within the Pleasant Valley Road interchange. All of these ITS devices communicate back to the Scout TMC through a redundant high speed fiber optic network. This fiber optic network will also be used to provide central communications to any new traffic signals within the interchange.

Another innovative technique utilized by MoDOT is Quality Management. Quality construction is critical to a successful construction program and is important to MoDOT, FHWA and the public. To ensure quality during construction, MoDOT requires contractors to develop, implement and maintain a Quality Management Plan. The QMP ensures the project quality meets or exceeds all contract requirements, and provides a record of acceptance of the work and material.

MoDOT will solicit Alternative Technical Concepts (ATC) during the project delivery phase of this project. The ATC process is an opportunity for MoDOT and our industry partners to participate in a cooperative effort to find a best value solution to our project. By opening the project to innovative means, methods and materials, we allow each interested contractor to propose alternatives that best fit their operations which allows them to be in their ideal competitive position for the project. Our experience shows that the integration of the contractors experience and innovation during the pre-bidding process has resulted in increased competition and lower bids.

D. Partnership

Municipalities, civic organizations, school districts, neighborhoods and property owners, as well as state and federal elected officials have provided letters demonstrating their support of the Project. The Ford expansion plan along with other development in the area is recognized as a great opportunity for the region.

Updating the transportation system is a priority for MoDOT and the surrounding communities and is essential for the success of the recent and future economic development efforts. Accordingly, the Cities of Liberty and Pleasant Valley have committed financial contributions to the Project.

Letters of financial commitment and other supporting documentation showing confirmed partnerships and support from local, state and federal entities are available.
E. Results of Benefit-Cost Analysis

The Missouri Department of Economic Development generated a Benefit-Cost Analysis (BCA) utilizing TREDIS, a nationally recognized system that among other analyses can provide the benefit costs inputs required in the FY 2013 TIGER grant application. Available for review are the TREDIS methodology, an example case study and how the benefit-cost evaluation corresponds to the FY2013 TIGER application elements. The BCA for the Project was generated last year for the FY 2012 TIGER application and was updated this year with a new construction cost estimate.

Benefits for the Project were determined by comparing a No-Build scenario to a Build scenario (the Project) over a 20-year period, which is Year 2035. Traffic volume estimates, analyzed through a traffic simulation model, were used to estimate the impact of the project on travel time, vehicle operating costs, emissions and accidents. Only the PM peak hour traffic volume was used in the analysis because it represents the worst hour of congestion in the interchange. The Safety Analysis projected the safety benefit of the Project to be $794,592, annually. The full project cost along with future maintenance costs is used for comparison with total benefits.

<table>
<thead>
<tr>
<th>BCA Summary</th>
<th>(Dollars in millions)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Benefits</td>
<td></td>
</tr>
<tr>
<td>Vehicle Operating Costs</td>
<td>$1.20</td>
</tr>
<tr>
<td>Reduced Travel Time</td>
<td>$7.58</td>
</tr>
<tr>
<td>Value of Personal Time</td>
<td>$4.09</td>
</tr>
<tr>
<td>Safety</td>
<td>$2.82</td>
</tr>
<tr>
<td>Logistics/Freight Costs</td>
<td>$0.00</td>
</tr>
<tr>
<td>Productivity from Access/Connectivity</td>
<td>$0.00</td>
</tr>
<tr>
<td>Environmental Factors</td>
<td>$0.08</td>
</tr>
<tr>
<td>Consumer Surplus and Other Social Welfare</td>
<td>$0.00</td>
</tr>
<tr>
<td>Welfare</td>
<td>$15.77</td>
</tr>
<tr>
<td>Costs</td>
<td></td>
</tr>
<tr>
<td>Capital Costs</td>
<td>$17.14</td>
</tr>
<tr>
<td>Maintenance Costs</td>
<td>-$5.01</td>
</tr>
<tr>
<td>Residual Value</td>
<td>-$1.26</td>
</tr>
<tr>
<td>Benefit/Cost Ratio</td>
<td>1.45</td>
</tr>
</tbody>
</table>
The BCA for the Project shows the quantifiable benefits exceed the anticipated cost by a ratio of 1.45 to 1, at a seven percent discount rate. Detailed reports generated by TREDIS are available for the Project.

However, the benefits derived in the analysis do not include all of the anticipated benefits of the Project. As previously mentioned, the benefits are based solely on the PM peak hour time period. Similar results could be anticipated for the AM peak hour since the AM peak hour traffic volume estimate is only slightly lower than the PM peak hour, 10,300 vehicles per hour versus 10,800, respectively.

The number of jobs created by the Ford Motor Company’s expansion of the Kansas City Assembly plant are not included because they are considered confidential at this time. However, the reduction of delay times has a direct effect on Ford’s just-in-time manufacturing process.

In addition, bicycle and pedestrian facilities will be constructed through the interchange area. These facilities will connect to existing and planned facilities within Pleasant Valley, Liberty and Claycomo. The benefits from this livability enhancement are difficult to measure and monetize and were not included in the BCA.

It should be assumed by adding these benefits to the total presented, that the true ratio of benefits to costs is higher than the reported figures.

VI. Project Readiness and NEPA

Project Schedule
Planning and design is under way for the Project, with an anticipated obligation of funds by June 30, 2014 and an award of the construction contract in August 2014. Although, MoDOT currently owns a large amount of right of way at the interchange location, it is anticipated that one property, Ferguson Properties, Inc. will be affected by the Project. Temporary construction easements may be needed from other property owners. Letters from the property owners supporting the Project are available.

<table>
<thead>
<tr>
<th>Project Milestones</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>STIP/TIP Approval</td>
<td>July 2013</td>
</tr>
<tr>
<td>Preliminary Design</td>
<td>September 2013</td>
</tr>
<tr>
<td>Environmental Approval</td>
<td>November 2013</td>
</tr>
<tr>
<td>ROW Acquisition</td>
<td>March 2014</td>
</tr>
<tr>
<td>Final Design</td>
<td>April 2014</td>
</tr>
<tr>
<td>TIGER Fund Obligation</td>
<td>June 2014</td>
</tr>
<tr>
<td>Construction Award</td>
<td>August 2014</td>
</tr>
<tr>
<td>Construction Completion</td>
<td>April 2016</td>
</tr>
</tbody>
</table>
Environmental Approvals
MoDOT will prepare and submit the required federal and state related environmental documents for the project. A Request for Environmental Services has been prepared for MoDOT’s environmental staff, who will, in coordination with FHWA, determine a NEPA classification for the project. In preliminary discussions, it is anticipated that this project will receive a CE2 determination (open-ended Categorical Exclusion). The environmental documents will be prepared and receive FHWA approval no later than November 2013.

Legislative Approvals
MoDOT has the authority and responsibility to successfully construct the improvements identified in this application. As shown in the Project Parties and Partnership sections of this application, this project is broadly supported at the local, state and federal levels.

State and Local Planning
The Mid-America Regional Council (MARC) is the metropolitan planning organization for the Kansas City area and is required to develop and maintain the region’s long-range transportation plan. Transportation Outlook 2040, adopted in June 2010, identifies and guides the region’s federal transportation investments over the next three decades.

Transportation Outlook 2040 was developed through an extensive public outreach process that spanned two years and involved thousands of elected officials, planners, businesses, community organizations and citizens across the region.

The Project is included in Transportation Outlook 2040 within the financially constrained list of major roadway projects. MoDOT submitted the project which is identified as I-35 at Pleasant Valley Road – Interchange Improvements (Project ID 234).

The Project is included in MoDOT’s 2013-2017 Statewide Transportation Improvement Program (STIP) for scoping and design. Once funding has been secured, the Project will be added to the STIP and MARC’s Transportation Improvement Program (TIP). MARC has indicated in their support letter that necessary action will be taken to include the project in the TIP, in a timely manner, once funding has been secured.

Technical and Financial Feasibility
In the past ten years, MoDOT has completed 4,220 projects worth $11.6 billion (4 percent under budget) with 95 percent of 2012 construction projects finished on time or ahead of schedule. Missourians have enjoyed smoother, safer roadways and given MoDOT an 85 percent satisfaction rating. MoDOT’s Tracker is a tool to assess how we
deliver services and products to our customers. The performance measures in the Tracker are designed to help us focus on the progress we are making to achieve results.

However, reduced transportation funding coupled with rising construction costs have placed Missouri’s transportation system at a critical crossroad. MoDOT has made major changes in the way it operates so every available penny can be funneled to roads and bridges. MoDOT has taken big steps toward tightening its belt over the past two years. The Bolder Five-Year Direction has reduced staff, facilities and equipment and will save $512 million by 2015, and $117 million per year thereafter.

MoDOT is committed to delivering quality projects of great value on time and on budget and challenges project engineers to use nontraditional project design methods to develop efficient solutions for today’s project needs. Practical Design places a premium on projects that deliver system-wide improvements and is rooted in the principle that building a series of good projects will result in a great system. It maximizes the value of a project by ensuring that it is the correct solution for its surroundings. Practical design is applied to every project and has enabled MoDOT to stretch its construction budget to build as many projects as possible.
VII. Links to Supporting Documentation and Other Relevant Information
Supporting documentation for the Project is saved on MoDOT’s ftp site or is a direct link to specific websites. The following summarizes what documentation is available.

FY2012 TIGER Grant Application_I-35 Interchange
Documentation includes the Project application and the following four folders/directories.
ftp://ftp.modot.org/Kansas%20City/Pleasant%20Valley%202013%20TIGER%20App/

Commitment & Support Letters
Documentation includes letters of support and financial commitments, including letters from the surrounding property owners.

Ford Expansion & Development
Documentation includes news articles regarding Ford Motor Company’s expansion plans and related development.
ftp://ftp.modot.org/Kansas%20City/Pleasant%20Valley%202013%20TIGER%20App/Ford%20Expansion%20%26%20Development/

Website links:
Ford Transit Connect:  http://www.ford.com/commercial-trucks/transitconnect-commercial/

Maps & Pictures
Documentation includes maps of the general project area, the existing and proposed interchange and pictures of the project area.
ftp://ftp.modot.org/Kansas%20City/Pleasant%20Valley%202013%20TIGER%20App/Maps%20%26%20Pictures/

Planning, Studies & Analysis
Documentation includes benefit-cost analysis, safety analysis, economically distressed area analysis, traffic analysis, STIP, TIP and long-range plan information and various local studies.
ftp://ftp.modot.org/Kansas%20City/Pleasant%20Valley%202013%20TIGER%20App/Planning.%20Studies%20%26%20Analysis/
I-35 & Pleasant Valley Road/South Liberty Parkway
Interchange Improvements
FY 2013 TIGER Grant Application

Website links:
MARC’s Transportation Outlook 2040:  http://www.marc.org/2040/
MoDOT’s Bolder 5-Year Direction:  http://www.modot.org/bolderfiveyeardirection/
MoDOT’s Tracker:  http://www.modot.mo.gov/about/general_info/Tracker.htm
City of Pleasant Valley:  http://www.pleasantvalleymo.org/Home.aspx
Village of Claycomo:  http://www.claycomo.org/

VIII. Federal Wage Rate Certification

Federal Wage Rate Requirement:
Contractors on MoDOT projects are required to pay either the state or federal prevailing hourly wage rate (whichever is higher) for any craft or type of worker required to perform the work, except when expressly provided by the contract document. The state and federal wage rates are posted on MoDOT’s website for each monthly letting. Via the Web link, select the desired letting date, click the “View Letting” button and then proceed to State Wage Rates and Current Federal Wage Rates.  

Link to Job Special Provision that appears in every MoDOT contract that has Federal-aid:  
http://www3.modot.mo.gov/jobspec2.nsf/40d8d12ad121cf2f862567bb004c65ce/7e062915b7ed8ee18625762e004adda0?OpenDocument

MoDOT certifies that it will comply with the requirements of subchapter IV of chapter 31 of Title 40, U.S. Code (Federal wage rate requirements), as required by the FY 2013 Continuing Appropriations Act.

(David B. Nichols, MoDOT Director)